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मानक

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Mazdoor Kisan Shakti Sangathan

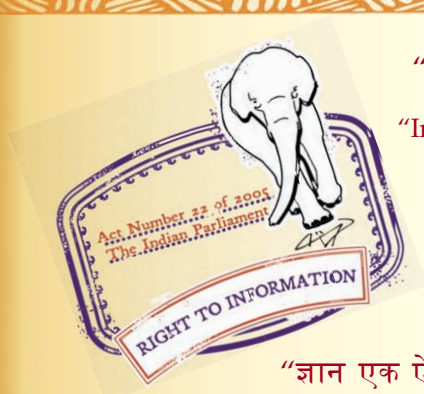
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“पुराने को छोड़ नये के तरफ”

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“Step Out From the Old to the New”

IS 11835-1 (2005): Tool Chucks (End Mill Holders) with Clamp Screws for Flatted Cylindrical Shank Tools : Part 1 - Dimensions of the Driving System of Tool Shanks [PGD 32: Cutting tools]



“ज्ञान से एक नये भारत का निर्माण”

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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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भारतीय मानक  
समतल बेलनाकार शैंक औजारों के लिए क्लैम्प स्कूज़ के  
साथ औजार चक्र (एंड मिल होल्डर)  
भाग 1 औजार शैंक की ड्राइविंग पद्धति के आयाम  
( पहला पुनरीक्षण )

*Indian Standard*

**TOOL CHUCKS (END MILL HOLDERS) WITH CLAMP  
SCREWS FOR FLATTED CYLINDRICAL SHANK TOOLS**  
**PART 1 DIMENSIONS OF THE DRIVING SYSTEM OF TOOL SHANKS**  
( *First Revision* )

ICS 25.200.20

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**NEW DELHI 110002**

FOREWORD

This Indian Standard (Part 1) (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Milling Cutters, Saws, Gear Cutting Tools and Broaches Sectional Committee had been approved by the Medical Instruments, General and Production Engineering Division Council.

This standard was first published as IS 11835 : 1986 based on ISO 5414-1 : 1985 and IS 11440 : 1985 based on ISO 5414-2 : 1982. After the revision of both ISO Standards the Committee decided to revise the corresponding Indian Standards also covering both the parts under one standard. The other part in this series is:

(Part 2) : 2004 Connecting dimensions of chucks and designation

Accordingly after the publication of these standards, IS 11440 : 1985 will be withdrawn.

While preparing this standard considerable assistance has been derived from ISO 5414-1 : 2002 ‘Tool chucks (end mill holders) with clamp screws for flatted cylindrical shank tools — Part 1 Dimensions of the driving system of tool shanks (*first revision*)’.

This standard is deviating from ISO Standard in the following clauses:

<i>Clause</i>	<i>Modification</i>
3.3, Table 3	In column 3 under ‘ <i>l</i> ’ substituted ‘20’ mm for ‘25’ mm in 9th and 10th row and in column 4 under $d_1$ substituted ‘12, 14’ for ‘12’ in the 4th row and ‘16, 18’ for ‘16’ in the 5th row.
Table 3, footnote	Substitute ‘ $d_2$ ’ for ‘ $d_3$ ’

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of test or analysis, shall be rounded off in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

## Indian Standard

# TOOL CHUCKS (END MILL HOLDERS) WITH CLAMP SCREWS FOR FLATTED CYLINDRICAL SHANK TOOLS

## PART 1 DIMENSIONS OF THE DRIVING SYSTEM OF TOOL SHANKS

( First Revision )

### 1 SCOPE

This standard (Part 1) lays down the dimensions of tool chucks (end mill holders) with clamp screws designed for driving flattened cylindrical shanks in accordance with IS 8692 and specifies the clamps screws used. It also gives the maximum diameter of the chuck nose.

This standard defines two types of drive:

- a) chucks with bores of  $d_1 \geq 20$  mm intended for driving cylindrical shank tools with a single flat, these tools being provided with either a single or a double cutting part; and
- b) chucks with bores of  $d_1 \leq 25$  mm intended for driving cylindrical shank tools with a double flat, these tools being provided with a single cutting part only.

NOTE — The connecting dimensions of the various types of chucks and the designation of tool chucks (end mill holders) with clamp screws are dealt with in IS 11835 (Part 2).

### 2 REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	Title
8692 : 1978	Dimensions for parallel shanks for milling cutters
11835 (Part 2) : 2004	Tool chucks (end mill holders) with clamp screws for flattened cylindrical shank tools: Part 2 Connecting dimensions of chucks and designation

### 3 DIMENSIONS

#### 3.1 Chucks for Tool Shanks with Single Flat

See Fig. 1 and Table 1.

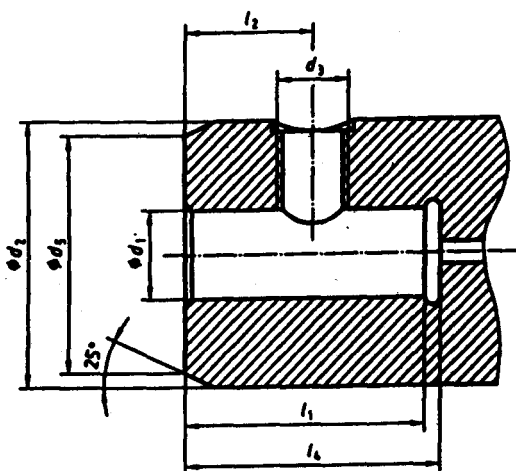


FIG. 1 CHUCKS FOR TOOL SHANKS WITH SINGLE FLAT

Table 1   Dimensions of Chucks for Tool Shanks with Single Flat  
(Clause 3.1)

All dimensions in millimetres.

Sl No.	$d_1$ H5	$l_1$ $\pm 1$	$l_2$ 0 - 1	$l_4$ Min	$d_2$ Min	$d_3$ 6H	$d_5$ 0 - 1
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	6	35	18	37	25	M6	15
ii)	8	35	18	37	28	M8	20
iii)	10	39	20	41	35	M10	25
iv)	12	44	22.5	46	42	M12	30
v)	14	44	22.5	46	44	M12	32
vi)	16	47	24	49	48	M14	36
vii)	18	47	24	49	50	M14	38
viii)	20	49	25	51	52	M16	40

3.2   Chucks for Tool Shanks with Double Flat

See Fig. 2 and Table 2.

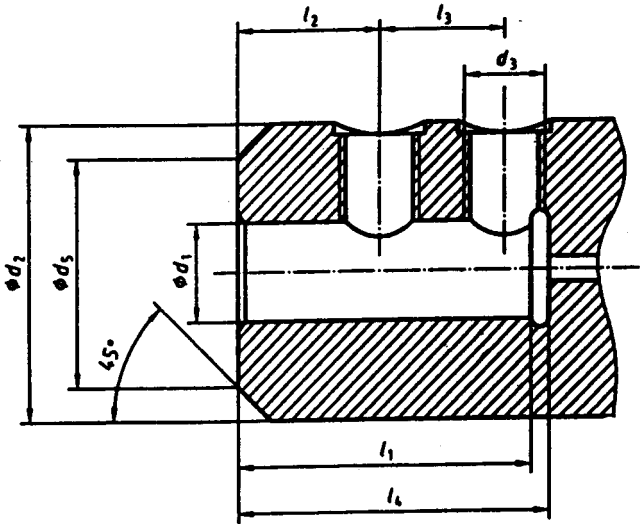


FIG. 2 CHUCKS FOR TOOL SHANKS WITH DOUBLE FLAT

Table 2   Dimensions of Chucks for Tool Shanks with Double Flat  
(Clause 3.2)

All dimensions in millimetres.

Sl No.	$d_1$ H5	$l_1$ $\pm 1$	$l_2$ 0 - 1	$l_3$ $\pm 0.5$	$l_4$ Min	$d_2$	$d_3$ 6H	$d_5$ 0 - 1
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	25	54	24	25	59	65	M18 x 2 M20 x 2 M20 x 2 M24 x 2 M24 x 2	45
ii)	32	58	24	28	63	72		56
iii)	40	68	30	32	73	80		60
iv)	50	78	35	35	83	90		70
v)	63	88	40	40	93	130		"

<sup>1)</sup> At the discretion of the manufacturer.

### 3.3 Clamp Screw

See Fig. 3 and Table 3.

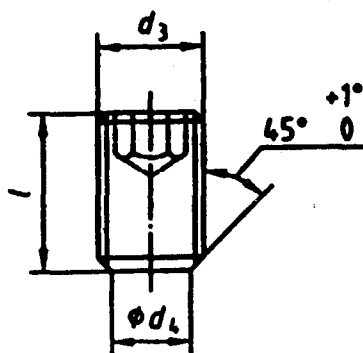


FIG. 3 CLAMP SCREW

**Table 3 Dimensions of Clamp Screw**  
(Clause 3.3)

All dimensions in millimetres.

Sl No.	$d_3$ 6h	$d_4$ + 0.1 0	$L^{1)}$	Boring Chucks, $d_1$
(1)	(2)	(3)	(4)	(5)
i)	M6	4.2	10	6
ii)	M8	5.5	10	8
iii)	M10	7	12	10
iv)	M12	8	16	12, 14
v)	M14	10	16	16, 18
vi)	M16	11	16	20
vii)	M18 x 2	12	20	25
viii)	M20 x 2	14	20	32
ix)	M20 x 2	14	20	40
x)	M24 x 2	18	20	50
xi)	M24 x 2	18	33	63

<sup>1)</sup> The values given represent the screw nominal length for boring for boring chucks  $d_1 \leq 32$  mm. For larger chucks,  $L$  values are given for guidance and calculated from maximum values of  $d_2$ . In the case of reduced  $d_2$  bore, the screw length should be re-calculated making sure that the engagement length is appropriate.



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### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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